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NAUGHT VERSUS AUGHT.

In arithmetical processes, the word *aught* is often used, erroneously, instead of *naught*. The commission of so palpable a blunder, by educated merchants in their counting-rooms, by lawyers at the bar, and by students in college, would excite surprise, if we did not also witness it in the school-room. This last fact, however, explains all the others. *Naught* is a contraction for *not any thing*;—thus, *not any thing, not aught, naught*. (The word is often written, *nought*, though Walker and Worcester seem to prefer the orthography, *naught*;—either cite good usage in its support.) It always means nothing, and its arithmetical expression is cipher, or zero, 0. *Aught*, on the other hand, is a contraction for *any thing*, and it always means *something*. When, therefore, in subtraction, the operator says, "aught from four leaves four," he says what is not true; for if *aught* (no matter how little) be taken from *four*, *four* will not be left. So when, in multiplication, he says, "six times aught is nothing," it is false; for any thing, however small, six times repeated, must be something.

We hope all teachers will heed this, and remember, that children never ought to be taught to say aught for naught.

SUMMER SCHOOLS.

[In our last Number, we gave two chapters from the 'Lessons on Objects,' to show in what way the minds of young children might be both usefully and pleasantly exercised. Below, are two chapters more. The teacher should not be confined to the objects here described, but should select others, more or less familiar, according to the capacity of the pupils. The great end, which ought to be always kept in view, is, to give to the children *real knowledge*, instead of *verbal knowledge*. Mr. Combe somewhere tells a pleasant anecdote of witnessing a show-examination of a class of little children, on what is called the three kingdoms of Nature. They defined them, correctly, as animal, mineral, and vegetable; and promptly answered many questions concerning substances, in each division. When the teacher had gone through with the exercise, he asked one of the young Misses in the class, to which of the three kingdoms she belonged: "I'm a mineral," said she. The teacher must have been a vegetable, for not connecting the words with their appropriate ideas.—ED.]

"LESSONS ON OBJECTS.

"THIRD WEEK.

"LESSON XI.—WRITING PAPER.—What is this? Paper. Where do we get paper from? Does it grow upon any plant? Does it come off any animal? Do we dig it out of the ground? How do we get it, then? It is made. Yes, it is made by man; but did man make it out of nothing? No. Who can make things out of nothing? God. Where did you learn

that God made every thing? From the Bible. To whom, then, does every thing belong? To God. Who must give us every thing? God. Whom, then, should we thank for every thing we have? God. If man makes paper, he must have something to make it with. Do any of you know of what paper is made? Of rags. Yes; and the best paper is made of linen rags. Of what is linen made? You do not know. I will tell you; it is made from the fibrous stem of a very pretty little plant. Here is the picture of it; it is called flax. Repeat together,—paper is made of rags; the finest paper is made of linen rags; linen is made from the stem of a plant called flax. Now, children, look at the paper, and tell me something about it. It is white. This paper is white; but what is this? Blue. And this? Brown. What kind of paper is made white? Writing paper. Try and find out why writing paper is made white? That we may see the writing upon it. Look at it and feel it. It is smooth. Put it between your thumb and finger. It is thin. Try again. It is light. Repeat together these qualities,—writing paper is smooth, thin, light. Now, hold it up against the light. We can see through it. Can you see through it as well as you do through glass? What is the difference? We can see every thing quite clearly through the glass; but through paper we only see the light. Try what you can do with paper. We can tear it. What besides? We can bend it, and fold it. Repeat together,—paper is easily torn; it can be bent and folded easily. See, I have put some into the fire; it burns; we call this inflammable. Why do we call paper inflammable? Because it burns easily. Tell me some other things that are inflammable. Wood and coal, &c. Of what use is this kind of paper? To write upon. Yes; and how pleasant you will think it when you are grown up, and perhaps a great way off from your father, and mother, and brothers, to receive a bit of paper, folded up, and brought to you by the postman, (what is it called? yes, a letter,) to tell you how they all are, what they are all doing, and how they are getting on. How glad you will then be, that, when you were young, you went to *school*, and learnt to *read*, so that you can make out what is written in the *letter* brought by the *postman*. After you have told me all you have found out about writing paper, and sung a hymn, I will tell you a true little history about writing. Now, repeat together,—writing paper is made of *linen rags;* linen is made from the fibrous *stem* of a plant called *flax;* writing paper is *white;* we can see *light* through it; it is *smooth, thin, light*, will *tear easily;* we can *bend it* and *fold it;* it is *inflammable;* it is useful to *write upon.*

"After a little manual exercise, children repeat the hymn,—

"I thank the goodness and the grace," &c.

"Now, I will tell you the little story, I promised you. A very good man, Mr. Williams, went from England, to one of those countries, where the people worship idols of wood and stone, that he might instruct them in the knowledge of the true God. This good man had to cross the sea, in order to get at this country. How did he manage this? Yes; he went in a ship; and when he arrived at the country, where the people did not know *God* and *Jesus Christ*, he began to teach them a great many things; he was very kind to them, and showed them how to build neat little cottages, and places where they might hear and learn about *God;* and he made a ship, to go upon the *water*. He was working very hard, one day, amongst them, when he found that he had left a tool, he was in want of, at home; so he called to one of the men, and, taking up a chip of wood, he wrote upon it what he wanted, and desired the man to take it to his wife, and she would give him what he had left behind. The man looked astonished, and waited for a message. "Go quick," said Mr. Williams; "I am in haste; show that to my wife; that is all." Now, the poor man, though he was a great man in that country, did not know any thing about reading or writing, and

he thought, how silly this is, to take a piece of wood to show. However, he did what he was bid; he was *obedient*. How great was his surprise, when he had given the chip to Mrs. Williams, to see her look at it, and immediately fetch the instrument. "But how do you know," said he, "that this is what Mr. Williams sent me for?" "You brought me a chip of wood," said Mrs. Williams, "and that informed me what I was to give you; you have only now to return quickly with it." He did so, repeating as he went back, what wonderful people these Englishmen are; they can make even a chip of wood speak! Now, seeing how much more this kind Missionary knew, than he or any of his people did, this Chief was willing that he should teach them about God and Jesus Christ. You see, dear children, how much better off we are, than these poor, ignorant people. Who gave us all our many blessings? God. Yes; He it is, who made you a happy child. What should you do? Praise Him. Is it enough to praise Him with your lips? No. How should you praise Him? We should praise Him with our hearts. Yes; but when you were singing that pretty little hymn of praise, I did not see you look as if you were really thanking God, in your hearts. When kind persons have given you something, I have heard you thank them, in such a manner, that I am sure you felt they had been kind to you. Now, I should like to hear you thank God as if you felt, indeed, that He is very kind to you.

"LESSON XII.—LEATHER.—What is this? Leather. What is leather? The skin of animals. Tell me some animals whose skins we use for leather. Cows, horses, calves, sheep, dogs, &c. Does their skin look like this leather? No. What is the difference? The skins of the animals have hairs. What has been done to the leather? The hairs have been scraped off. Yes; and it has been cleaned and smoothed, &c. How do we get paper? It is made of rags. Is leather made by man? No. It is not made by man, but it is prepared *by him* for use. This is a piece of the skin of a horse; what has been done to it? Prepared. Now look at it, and tell me what you see. It is black. Yes, this side is black; but this is?—Brown. And what side would you call the black side? The upper side. And what the brown side? The under side. Then, what should you say of this piece of leather? The upper side is black; the under side is brown. Look at it, again. We cannot see through it. Look again. It is dull. Observe both sides. The upper side is rather bright; the under side is dull. Now, you have said that this leather is black on one side and *brown on the other*; that you cannot *see through it*; that it is rather *bright* on the *upper side* and *dull* on the *under*. How did you find out these qualities? By our eyes. Yes, by your eyes, or by your sight. Now, touch it, and tell me what you feel. It is thin. But, if you compare it with the paper, what would you say? Not so thin as the paper. What more can you find, when you feel it? It is smooth. Compare the two sides. The upper side is the smoothest. Try again; what can you do with it? It bends easily. What could you do with the paper? Fold it up. Can you do the same with the leather? No; we can bend it; this is called flexible. When do we call a thing flexible? When we can bend it easily. What could you do with the paper, besides bending and folding it? We could tear it. Try the leather. We cannot tear it. Why? Because it is tough. Put it into your hand, and feel it. It is light. Now, you have told me that this leather is *thin, smooth, flexible, tough, light*; how did you find out these qualities? By our hands. Yes, by feeling or touch. Now, you shall neither touch it nor look at it; shut your eyes, and I will hold it near to you,—what can you tell me about the leather, now? It has a smell. Whatever has a smell we call odorous. What is leather? Odorous. How did you find out that it was odorous? By our noses. By doing what? By smelling it. You found out some qualities in this leather by

your eyes. Yes. By doing what? By looking at it. And some qualities you found out by your,—*Hands.* Yes. What did you do? Touched it. And you found out that it was odorous by your,—*Noses.* What did you do? Smelt it. Where have you got any leather about you? Our shoes. Why is leather fit for shoes? It is strong. Yes; it is strong or lasting. Why does your mother, in wet weather, like you to have a good pair of leather shoes, in which there are no holes? To keep our feet dry. Then the water does not come through,—*Leather.* It is water-proof. Why then is leather fit for shoes? Because it is lasting and water-proof. Some other qualities you mentioned before make leather fit for shoes; you would not like, I should think, to wear iron shoes,—and why not? Because they would be so heavy. Leather, then, is fit for shoes, because it is *light*; why are wooden shoes not very pleasant? They hurt the feet. Why does not leather hurt the feet? It bends to the shape of the foot. Yes; it is,—*flexible.* Now, I will show you something more in the leather. I have put it in the fire; what do you see? It frizzles up. What happened to the paper? It took fire. And what do you observe more, in the leather? It has a very nasty smell. This is what happens to animal substances, when you burn them; they frizzle up, and give out a disagreeable *smell.* Now, repeat together all that has been said about leather. Leather is the *skin of an animal.* What is done to it? Prepared. Leather, then, is the *prepared skin of an animal.* By our eyes we find out that it is *black* and *bright* on the *upper side*, *brown* and *dull* on the *under surface*; we cannot *see through it*; by our hands, or feeling, we find out that it is *thin*, *tough*, *flexible*, *smooth*; by our noses, or *smelling*, we find out that it is *odorous*; when put into the fire it *frizzles up*, and has a *nasty smell*; it is fit for *shoes*, because it is *lasting*, *thin*, *light*, *flexible*, *water-proof.*

"Lesson XIII.—Chalk.—What is this? Chalk. Where do we get chalk from? Out of the earth. What are the places called out of which chalk is taken? Chalk-pits. In some countries, God has placed a great deal of chalk in the earth, so that it rises up and forms hills. Where have you seen a hill? Have you ever seen the Surry hills?* I will show you presently, on a map of England, the different chalk-hills. Chalk, you say, comes *out of the earth*, dug from *chalk-pits.* Who can make chalk? Only God. Paper you remember is made by *man*; leather is *prepared by man*; but chalk is neither made nor prepared by man, and it is therefore called natural. Why is chalk called natural? Because it is neither made nor prepared by man. How should you know, by looking at this, that it is chalk? Because it is white. Yes, chalk is *white*, but milk is white, also; how, then, do you know milk from chalk? It is liquid. Yes, the chalk does not run about or form into drops; it is in a lump or solid. Chalk is *solid.* Why do we call it solid? Because it does not come into drops, but is in a lump. Look at this lump of sugar; this, like the chalk, is white and solid; how do you know it from the chalk? It is sparkling. Yes, and the chalk is *dull.* Now, you have seen that the chalk is *white*, *solid*, and *dull.* Look at it, again. We cannot see through it. Then, when you use your eyes, you find that chalk is *white*, *solid*, *dull*, and that you *cannot see through it.* Now, feel the chalk. It feels very dry. Rub it. It crumbles. What does it crumble into? Into a powder. Chalk is dry and crumbling. What happens, when I draw the chalk across the slate? Some of the chalk is left on the slate, and makes a mark. That is because the chalk is crumbling. What quality makes the chalk useful to us? Its being crumb-

"*Of course, the putting such a question would depend upon where the children lived. If in the neighborhood of London, the Surry Hills could be pointed out to them. They should also be led to observe the peculiarities of their own locality. If they live in a chalk vicinity, chalk and flint should often form subjects for their lessons; if on the London basin, gravel, clay, &c.

ling. Who gave it this quality, that makes it useful? God. Yes, God, who made the chalk, made it of a crumbling nature. What other way have you of finding out a quality, except by seeing and feeling? By smelling. Smell the chalk. It has no smell. How do you find out that sugar is sweet? By tasting. But as chalk is not given us to eat, you need not taste it, though you may put it to your tongue, and tell me what you observe. It sticks to the tongue. Repeat then, together,—Chalk sticks to the tongue. Where have you seen chalk used? We have seen it put on fields. Chalk is put on some kinds of soils, because it improves them and makes the corn grow better. Now repeat all you have said about chalk, together. I expect all the little children will join. Chalk is dug out of *chalk-pits*. In some countries, there is so much *chalk* in the *earth*, that it forms *hills*. Men cannot *make* or *prepare chalk*. It is *natural*, made by *God*, for the use of *man*. When we look at chalk, we find that it is *white*, *solid*, *dull*, and we cannot *see through it*. We find by feeling that it is *dry*, and it *sticks to the tongue*. It is *crumbling*, and this makes it useful for *writing*. It has no *smell*. It is often put on *fields*, to improve the *soil* and make the corn *grow*.

"Lesson XIV.—Coal.*—I have in my hand a piece of a natural substance. What do I mean by a natural substance? That it is not made by man. This natural substance which I have in my hand was dug out of the earth; it is black, and very useful to man; guess what it is. Yes, it is a piece of coal. What made you think that it is coal? Because, teacher, you said that it was black, and that it came out of the earth, and was useful to man. What quality makes it very useful to man? Its being inflammable. How does this quality of coal make it so very useful? Because we can cook our food with it, and warm our rooms. Yes, how sad it would have been, last Winter, if we had not had coals to make fires with! Who made coals inflammable? God. How very good it is in our Heavenly Father, that he gives different things different qualities, that they may be of different uses to us. He makes some liquid, that we may *drink them*; some wholesome, that they may *nourish us*; some crumbling, that we may *write* with them; some inflammable, that they may *warm us*. Now, examine the coal. It is very bright. We cannot see through it. Repeat together,—coal is *very bright*; we cannot *see through it*. Feel it. It is *hard*, *solid*, *brittle*. Repeat together,—coal is *hard*, *solid*, *brittle*. Sometimes, teacher, there are little bright yellow pieces in the coal. Yes, these are little bits of iron; and sometimes, we find pieces of slate, and then we say it is not good coal; it will not *burn well*. What use do we make of coal? To cook our food, and warm our rooms. What other use is made of coal? To make gas. What is the use of gas? To light the streets. What other use is made of coal?† To produce steam. What does steam come from? Boiling water. What makes the water boil? Fire. And what makes the best fire? Coals. What could we use, if we could not get coals? Wood. What must we do to get wood? Cut down our trees. Yes; and we should not find trees enough in England, to supply all the fires we want; but God has given our country such a supply of coals that there is no fear of our using them all up. Now, repeat together your lesson upon coal,—Coal is a *natural substance* dug *out of the earth*; it is very useful to *man*, because it is very *inflammable*. It is *black*, *bright*, *brittle*, *hard*; we cannot *see through it*. It is useful to *cook our food*, and *warm our rooms*; to make *gas* and *steam*, and for many other purposes.

"Lesson XV.—I have brought in, to-day, the different things upon

"* Bituminous coal is here meant.

"† It is not the object of these lessons to give the children information, but to cultivate their habits of observation on whatsoever they have the opportunity of seeing.

which you have had lessons, this week,—what are they? Paper, leather, chalk, coal. What is paper made from? It is made from rags. What is leather? The prepared skin of animals. What are chalk and coal? Natural substances, dug out of the earth. In what are the paper and leather alike? They are both thin, light, flexible. In what are the paper and chalk alike? They are both white. In what do the paper and leather differ? The paper tears easily and can be folded,—the leather is very tough. Find out some quality in each object before you, which makes it differ from all the others? Paper tears easily; leather is tough; chalk is crumbling; coal is brittle. Now, tell me what quality makes each useful? Paper can be folded and written upon; leather is lasting and water-proof; chalk is crumbling; coal is inflammable. What do we find that different things have? Different qualities. Who gave them these different qualities? God. God gave them different qualities, for our use; what should this teach us? To thank God, who has made things with different qualities, that they may be useful to man.

"(This lesson may be extended, to an indefinite extent, and made the means of ascertaining how far the former lessons have been remembered.)

"FOURTH WEEK.

"LESSON XVI.—MATCH.—You know what this is? Yes, teacher, a match. Are matches found, ready made? No. How do we get them? They are made by some person. Yes, matches are made by man. Is a match the same, all over? No. Am I the same, all over? No. What do you call this? Your arm. You would not call my arm the whole of my body; what would you call it? A part of your body. Then, my body has different parts; and what has the match? Parts. Tell me the different parts? The brimstone, the wood. And where is the brimstone put? At the ends of the match. How many ends has the match? Two. Do you observe any other parts? The sides. Then the parts of a match are,—the *wood*, the *brimstone*, the *ends*, the *sides*. What sort of thing is brimstone? Where does it come from? Out of the earth. Who can tell me what they call the things dug out of the earth; not those that grow out of it? Stones. No; we do not call every thing dug out of the earth stones; I think some of you will recollect a very useful thing which is dug out of the earth, which we do not call a stone; what is it? How many will hold up their hands, to show me that they know what I mean? What is it? Yes, coals. But you would not call coal a stone, nor brimstone; but every thing that is dug out of the earth is called a *mineral*. What is a mineral? Now tell me what brimstone is? A mineral. Why is brimstone a mineral? Tell me some other minerals. Now, look at the brimstone, and tell me something about it. It is yellow. Yes. Repeat together,—brimstone is *yellow*. (Teacher puts it to a lighted candle.) It is on fire. What do you call things that take fire easily? Inflammable. Brimstone is *inflammable*. Did you see any thing more than that it took fire? The flame was quite blue. Repeat,—brimstone burns with a *blue flame*. I think you can find out something now, by my setting the brimstone on fire. It makes an unpleasant smell. Things that give out a smell are called odorous. Tell me some things that are odorous? Brimstone is *odorous*. By what did you find out that brimstone was odorous? By our noses. What use did you make of your noses, then? We smelt with them. By what did you find out that brimstone was yellow? By our eyes. What use did you make of your eyes, then? We saw with them. There is something more that the fire does to the brimstone; what is it? It melts it. Repeat,—brimstone *melts in fire*. What is the quality that makes brimstone useful to us? Its being inflammable. Of what is the other part of the match made? Of wood. Brimstone, you said, is mineral, because it is found in the earth; now, what is wood? A vegetable. Yes, repeat,—it belongs to a *vegetable*.

What is it taken from? A tree. What kind of wood is this? Deal. Perhaps none of you can tell me from what tree we get deal wood. Here is the picture* of the tree, it is called a fir; what is deal? The wood of the fir-tree. Now examine the wood, and tell me something about it? It is hard, it is dry, we cannot see through it, it is dull, light brown. Repeat these qualities of wood together,—Deal wood is hard, dry, we cannot see through it, it is dull, the color is light brown. (Teacher puts it in the candle.) It is inflammable. What difference do you observe between the brimstone and wood, when I put them in the flame? The brimstone took fire soonest, and burnt with a blue flame. Yes, and the brimstone melted into drops; but what does wood form, when it is burnt? Ashes. Now, I want some of you to think, and find out why we require both brimstone and wood to make a good match? We have the brimstone, because it takes fire so very quickly; and why do we have the wood? How long did the brimstone burn? A very little time. Perhaps it would burn out before we could get our candle or fire to light, but the wood burnt a long time; then, we have the brimstone, because it takes fire so quickly, and the wood, because it burns longer. You told me that man made the match; but who gave the wood and the brimstone the qualities that make them so needful to us? Yes; it is God who made every thing, and has given to every thing the qualities that make them useful to us. Now, you shall repeat all you have said about the match. A match is made of *wood* and *brimstone*; the brimstone is placed at *the ends*; it is a *mineral substance*, and comes out of *the earth*; it is *yellow*; very *inflammable*, and burns with a *blue flame*; it also melts in *fire*, and is very *odorous*. The wood is a *vegetable substance*, and comes from *a tree* called a *fir-tree*. The wood is *inflammable*, but it does not burn so *fast* as the *brimstone*; it burns to *ashes*; its color is *light brown*; we cannot *see through it*; it is *hard*, *dry*, and *dull*. Man makes the *matches*, but God gives the qualities to the *brimstone* and *wood*, that make them *useful to us*.

"Lesson XVII.—A Rose-leaf.—What is this? A leaf. Where do leaves come from? Trees. What leaves do cows and horses eat, in fields? Grass. What leaves do we eat? Cabbage-leaves and spinach, &c. What do you call trees, and grass, and cabbages, &c.? (The children will probably say plants, but they must be told that they are also called vegetables.) Tell me one of the largest vegetables you have ever seen. An elm-tree. Tell me a small one. Wheat. Tell me one we eat. Lettuces. What are all these called? Vegetables. Where do vegetables come from? Out of the ground. If I had a piece of land without any vegetables, what must I do to raise some? Sow some seed. Where must I put the seed? In the earth. If I was to sow some grass-seed, what would happen? Some grass would spring up. And what would it be, at first? Very small. If healthy, would it continue so small? No. What would it do? Grow. If I were to put an acorn in the ground, what would happen? It would spring up. Yes, and at first it would be very *small*; but it would *grow*, till, after many years, it would become a great *oak*. But would the same happen, if I buried a flint or piece of coal in the earth? No. They do not *grow*, like vegetables, out of the *earth*. Now, you know the difference between a mineral and a vegetable. Now, look at this leaf, and tell me its different parts. What part do I hold in my hand that you would not call the leaf? The stalk. What does the stalk bear? A leaf. The stalk that bears a leaf is called the leaf-stalk; what is this? A leaf-stalk. Find out some of the parts of the leaf. The edge. What difference do you observe in the edge of the rose-leaf and this lily-leaf? The rose-leaf has little points, and the lily-leaf has not. Yes, like this, (the teacher draws on the

* Teachers should always consider, before they begin their lessons, what they shall want to illustrate the subject, and have every thing at hand.

slate.) The points are called teeth, because they are like the sharp-pointed teeth of some animals; and the edge, that has such points, is called toothed. What is this edge? Toothed. Why is it said to be toothed? Because it has points like the teeth of some animals. Find some more parts. There is a line down the middle. Yes, that line is called the middle rib. See whether the middle rib is the same, on both sides of the leaf. It goes in on one side, and comes out on the other. Which of you can tell me, in a ploughed field, what they call the hollow line made by the plough? The furrow. And what do they call the raised part on each side? The ridges. What is the middle rib like, on this side of the leaf? A furrow. And on this side it is like a *ridge*. Now you see there are two sides to the leaf; how would you call them? When the leaf is on the tree, which side is uppermost? This is, therefore, called the upper side; and what would you call the other? The under side. Look again, carefully, at the leaf; there are more lines; where do these lines come from? The middle rib. And where do they go? To the edge. These lines are called the veins; how are they like the middle rib? They go in, like furrows, on the upper side, and come out, like ridges, on the under surface. Do you see any other part? The end. The point or end is opposite the *stalk*. Now, tell me some of the qualities of the leaf; what can you say it is? It is green; it is rather bright. Look again; see if both sides are bright. No, the under side is dull. Here are several leaves; what difference do you observe in their upper and under surfaces? The upper surface is the brightest. Feel the rose-leaf. It is thin; it is soft. Any thing more? It bends easily. What do you say of a thing which bends easily? It is pliable. What can you say of the leaf? It is pliable. What more do you find, when you feel it? It is light, smooth. What is the shape? Round. (Teacher draws a correct circle before the children.) What, is it like this shape? Not quite. I will draw the shape of an egg; which is it most like? The egg. We call the shape of an egg *oval*. What would you say is the shape of this leaf? Oval. Now, you must repeat together all about the rose-leaf. A rose-leaf is a *vegetable substance*; it grows on a *leaf-stalk*; it has an *edge*, which is *toothed*; it has a *middle rib*, which is like a *furrow* on the *upper side*, and like a *ridge* on the *under side*; it has also many *veins*, which are like *furrows* on the *upper side*, and like *ridges* on the *under side*. Its color is *green*, its shape is *oval*. To the touch it is *thin*, *soft*, *smooth*; it *bends* easily; the upper side is rather *bright*, and the under side is *dull*.

"Lesson XVIII.—Honey-comb.—What is this? A piece of honey-comb. Where does it come from? A bee-hive. Who put it in the hive? The bees made it. Can you tell me how the bees made it? No, I am sure you cannot. They have no hands, no tools, and yet see how beautifully it is made; not one of you could make such a piece. Where did the bees learn how to make their comb? Yes, God taught them, and enabled them to do it well. He teaches all animals to do what is necessary for their comfort. Now look at the honey-comb, and tell me some parts. The holes. The holes are called cells. What parts do you see in the cells? What do we call that part of the room where the windows are? The sides. Well, see what the cells have. Sides. Count how many sides each cell has. Six. Each cell has *six sides*. Look again at the room, and tell me what you call the part where the sides meet. The corners. And what has each cell? Corners. How many corners has each cell?—count. Six. Repeat,—each cell has *six corners*. When you look into the cell, what part do you see? The bottom. And what part is opposite? The top. What is there round the top? An edge. Now, try and find out some of the qualities of the honey-comb; feel it. It is very light, and sticky. Look at it; it is dull; we can see the light through it; it is yellow. (Teacher presses it.) It is brittle. (Puts it into the flame of a candle.) It melts. When does

it melt? In fire. What use does the bee make of the cells? To keep honey in. And where does the bee get the honey? From flowers. Yes; in Summer, the bee collects honey, which it stores in the cells: but it also uses the cells for another purpose; the young bees are kept in them, and fed and watched by the bees, till they get their wings, and then they fly and begin to work, themselves. And what do we make of the honey-comb? Wax. And what use do we make of wax? We make candles of wax. Yes; and we rub furniture with it, to make it look bright. I should think that some of you have seen your fathers use wax. Yes, teacher, my father does. What is your father? A cobbler. What does he use wax for? To make his thread stronger, &c. Now, repeat together about the honey-comb. Honey-comb is made by *bees*, who put the honey they get from *flowers* into it. It is formed of a number of little *cells*, which have each *six sides* and *six corners*, a *bottom* and a *top*, with an *edge*. Wax is very *light*, *thin*, and *sticky*. The color is *light yellow*. It is *dull*; we can see *light through it*: it is *brittle*, and *melts in fire*. We use it to make candles, and to rub *furniture*, to make it look *bright*. Cobblers use it to *strengthen* their *thread*.

"Lesson XIX.—A Butterfly.—What is this? A butterfly. What is a butterfly? An insect. What is an insect? It is neither a vegetable nor a mineral, it is an *animal*. Now, examine the butterfly, and tell me its different parts. It has wings. How many wings has a butterfly? Four. What difference do you observe in these four wings? Two are large and two are small. What can it do with its wings? Fly. Where are the wings placed? Two on each side of the body. What is the direction of the wings, in flying; are they in the direction of the walls of the room, or the ceiling? The ceiling.* In what other direction does the butterfly sometimes put its wings? Upright; but when it flies, they are always spread open. If you had a piece of thin paper, which you wished to float in the air, would you roll it up, or spread it out? Spread it out. Yes; then the air supports it. What does the butterfly do like this?† Opens her wings and spreads them out. What more do you observe in the wings? They are beautifully marked. (Teacher rubs the wings with his fingers.) What do you see? The color comes off. There is a kind of down upon the wings, which easily rubs off. Repeat together,—The butterfly has *four wings*, two are *large* and two *small*. They are placed on each *side of the body*. When it flies, the wings are *spread out*; when at rest, they are often *upright*. They are covered with beautifully-colored *down*, which *rubs off very easily*. Now, what other part do you observe in the butterfly? The legs. How many legs has a butterfly? Six. Where are they placed? Under the body. What can the butterfly do with its legs? Walk. Do they use them much, in walking? No. What do you generally see a butterfly doing? Flying about. And when it is not flying, what is it doing? Standing. What does it stand upon? Its legs. But it can do something more with its legs; what do we do, when we walk or move? Bend our legs. And what do we call the parts where we bend our legs? Joints. And what can the butterfly do with its legs? Bend them. What, then, must it have upon its legs? Joints. Repeat together about the butterfly's legs. The butterfly has *six legs* placed *under its body*; the legs have *joints*; it uses its legs chiefly to *stand upon*. Now, find out another part of the butterfly. Its body. What sort of a body has it? Long and small; you may call it slender. Where is it placed? Between the wings. What more do you observe in it? It is covered with hairs. Repeat together,—

"* If the children have learnt the difference between the horizontal and perpendicular position, they may here apply their knowledge.

"† The youngest children should be led to the observation of facts. The reasoning upon them, and drawing conclusions from them, is the work of a later period.

The body of the butterfly is *slender* and almost covered with *hairs*; it is placed between its *wings*.

"What other part do you see? The head. And what has the butterfly upon its head? Horns. How many? Two. What sort of horns are they? Long. What besides? Fine. What do you observe at the end? They are thick. The butterfly's horns always end in a thick knob. What more do you see on the head? Eyes. How many? Two. What is the use of the eyes? To see with. Look again at the head, there is something that sticks out. They are called feelers; most insects have four feelers. Now observe, here is something I will draw out from between the feelers. What is it like? It is like a hair rolled up. It is the butterfly's mouth, and is called a trunk. Which of you can tell me what butterflies feed upon. Yes, honey. And where do they find honey? In flowers. Yes, generally at the bottom of the flowers. Could they get at it, if they had mouths like yours and mine? No. What, then, is the particular use of such a mouth as a trunk, to a butterfly? To get at the honey at the bottom of the flowers. Yes, the butterfly darts its trunk into the flowers, and, as it is hollow, it can suck up the sweet honey through it. What pleasure you will have now, in watching a butterfly, and in thinking, God has given it just such a mouth as it wants, but mine is best for me. Now repeat together the parts of the butterfly's head,—The butterfly has *two eyes* on its *head*, and *two horns*, which are *long* and end in a *knob*. It has *four feelers*; between them is placed its *mouth*, which is a long *trunk*, curled up between *two of the feelers*; this trunk it darts into *flowers*, to get at the *honey*.

"The children's remarks upon the color and marks of the butterfly must be determined by the particular one brought before them. The teacher should lead them to admire its beauty, and to observe the happy life it seems to lead, and then draw their attention to the sin of teasing what God has formed to be happy, and of injuring what God has so beautifully made; no opportunity should be lost of endeavoring to counteract the cruelty so common to children. The evil disposition springs generally from a love of exercising power; they should therefore be encouraged to exercise the power of any kind, which God may have given them, in increasing the happiness and good of his irrational as well as rational creatures. Early train them to feel that they are accountable for every faculty and power they possess; even their power over the most insignificant insect.

"In what kind of weather do butterflies come out? In fine, sunshiny weather. How do they employ themselves? In flying about and getting honey. Would it be right for us to imitate the butterfly? No; because God has given us all work to do, and tells us, in his Book, to be industrious, as the little ant is. Now, repeat together all that we have said of the butterfly. The butterfly is an *insect*; it has *four wings*; two are *large* and two *small*; when it flies, they are *spread out*; they are covered with beautiful *down*, which easily *rubs off*; between the wings is its *body*, which is *long and slender*, and almost covered with soft *hairs*; under its body are *six legs*, which have *joints*; it does not use them much in *walking*, but *stands upon* them; upon its head it has two *long horns*, with *knobs at the end*; two *eyes*, four *feelers*; between two of its feelers is placed its *mouth*, which is a *long, hollow trunk*, curled up when not in use; it darts its *trunk into flowers*, to get at the *honey*, upon which *it feeds*.

"Lesson XX.—Here are the four objects which you have had for your lessons, this week. What are they? A match, a leaf, a piece of honeycomb, a butterfly. Which of these is made by man? The match. What must the person have, who makes a match? Brimstone and wood. What kind of substance is brimstone? A mineral substance. And what kind of substance is wood? A vegetable substance. What other vegetable substances have you had? A leaf. Neither the leaf nor the wood is a

whole vegetable, but part of one; the butterfly is a whole animal; tell me another animal? A dog. Now, I will write the names of these two animals on the slate,—butterfly, dog. Now, tell me two whole vegetables, that I may write them down, also? A rose-tree, wheat. Now, two minerals? Brimstone, flint. We have now two *animals*, two *vegetables*, and two *minerals*. What can the butterfly do? Fly.* What can the dog do? Run. Can the dog fly, or the butterfly run? No. But find something that they both do, when the one flies and the other runs? Move. Both animals move. Where does the butterfly move? From flower to flower. Who does the butterfly please, in thus flying from flower to flower? Itself. The butterfly flies about whenever *it pleases*. And when the dog runs about or lies down to sleep, who is he pleasing? Himself. Then the dog moves about whenever *he pleases*; what do both these animals do? Move about when they please. But now think about these vegetables; show me how they are different from the animals? The vegetables cannot move about. Did you ever see a tree move? Yes, when the wind blows it. How, then, is its moving different from the moving of the animal? The animal moves about just when it likes; but the tree only moves when the wind blows it. But think what vegetables do? If I wished to have some wheat in my field, what should I do? Sow some seed. Yes; I should put the little seed into the ground; what would happen? It would spring up. And what would it become, at last? Wheat. Yes; a plant of wheat with a *stem*, and *leaves*, and an *ear of corn*. But what must the vegetable have done, to have become, from a little seed, a large plant? It must have grown. What, then, do vegetables do? Grow. Vegetables grow; do animals grow? Yes. Tell me how you know that they grow? Mother had a little kitten, and now it is a great cat. What can you say of animals? They grow and move about where they please. What can you say of vegetables? They grow. But now, think about the minerals; supposing I was to put this piece of flint in the ground, as I might the seed; if, in a fortnight, I was to come and look for it, might I expect to see any part above the earth? No. Why not? If I had put in a seed I should expect to see a little shoot coming up. Yes, because the vegetable† grows, but the mineral does not. Well, then, you have found out that animals *grow* and *move about as they please*; vegetables *grow*; minerals neither *grow* nor *move about*.

"In the preceding series the teachers are furnished with model lessons for four weeks; and, after such practice, it is expected that all who are competent to fill the office will be able to draw up similar lessons, for their own use. To assist them, a list of objects, suitable for such instruction, is given below, with some quality mentioned that particularly fits them for use, or one which exists in such a degree, that the children, from the object, would gain a correct and vivid idea of the quality.

"*List of Objects.*

Glass,	transparent.	Sealing wax,	fusible, impressible.
India-rubber and whalebone,	elastic.	Camphor,	inflammable.
Gum, Glue,	adhesive.	Ginger,	pungent.
		Copper,	sonorous.
Sponge, Bread, Blotting paper,	porous, absorbent.	Salt,	salt taste.
		Cotton,	soft.
		Cork,	light.

"* Of course, it is impossible to anticipate the exact answers of children; but these are the points to which the teacher must direct their observation, by questions.

"† This lesson should not be given till the children are a little advanced. Keep them for a long time to the simple observations of parts and qualities. It is drawn up rather to show how such subjects should be treated, than to recommend such teaching to be much pursued in infant schools.

"The following objects should be brought before the children, that they may learn all their different parts :

Pin.	Scissors.	Spade.
Needle.	Thimble.	Rake.
Pencil.	Shawl.	Horse-shoe.
Quill.	Glove.	Chair.
Pen.	Hammer.	Book.
Egg.	Bird's nest.	Stool.
Knife.	Cup.	Table.
Key.	Glass.	Ladder.
Brush.	Acorn.	Saw.
Penny.	Gooseberry.	
Broom.	Candle.	

"The following objects, as being very common :

Rice.	Butter.	Putty.
Horse-hair.	Coffee.	Mortar.
String.	Tea-leaves.	Horn.
Soap.	Parchment.	Honey.
Brick.	Cotton.	Starch.
Hearth-stone.	Flax.	
Oil-skin.	Hemp.	

"The common metals, also, and the liquids in general use, should be made the subject of lessons."

INAUGURAL ADDRESS OF THE HON. STEPHEN C. PHILLIPS, MAYOR OF SALEM.

[That part of the Mayor's Address, which relates to the Public Schools, is highly encouraging. During the past year, five schoolhouses have been enlarged, altered, or repaired. The salaries of all the male teachers, except one, have been increased. Encouragement is given, that the female teachers shall soon be more liberally compensated for their services ; and measures are now in progress to supply the schools with female teachers of higher qualifications. The Mayor is an old and fast friend of the Common Schools ; he is aided and sustained by a most intelligent school committee ; and, what is most fortunate of all, the most generous and public-spirited people of the city harmonize with them, in their views of the importance of these institutions. We give, below, an extract from the Address. —Ed.]

"An examination has been made of the plan for a School Library, as proposed by the Board of Education, and the result of that examination has been recently conveyed to the Legislature, in an earnest remonstrance against the abolition of that Board, as involving, among other consequences, the frustration of a design, which has proceeded from the wisest counsels, and will be executed by the best talents, of the State ; and which is believed to be adapted, in its moral tone, in its literary merits, and in all its practical tendencies, to elevate, strengthen, and adorn, the character of youth, and thus to advance, immeasurably, the qualifications for manhood.

"During the year, the sum of eight hundred and eighty-four dollars and seventy-nine cents has been paid into the Treasury of the city, by the Treasurer of the Commonwealth, as the city's share of the annual dividends of the Massachusetts School Fund, for 1837 and 1838. By a vote of the City Council, in manifest compliance with the design of the State, this amount was placed at the control of the School Committee, as an addition to the ordinary appropriations ; and that it might be applied to some special object, upon the recommendation of a sub-committee, whose report has been pub-

lished, it was decided by the general committee, that this donation should be applied in part to the support, for a year, at the Normal School in Lexington, of two young ladies, to be selected from such of the Assistants or older scholars of the East and West Female Schools, as might need, and would desire to avail themselves of, this assistance, for the purpose of increasing their qualifications for future service in the Public Schools. This grant was coupled with stipulations, that the amount advanced should be gradually repaid, by a deduction from the salaries to be afterwards allowed them, as assistants; so that, in effect, under ordinary circumstances, the grant would prove equivalent to a loan, and would enable the beneficiaries, without apprehension, to anticipate their own resources, and leave it in the power of the committee, to continue to provide for the same object by the use of the same means.

"A delay of the proceedings connected with this object has been caused by the posture of the project, which was pending in the Legislature, for the abolition of the Normal Schools. That project has signally failed. The prevailing sentiment in the Legislature, as well as out of it, is not found prepared to arrest an enterprise, which, originating in private munificence, and fostered by public favor, has taken a strong hold of the confidence of the people, and is identified with the character of the State. The experiment will be suffered to succeed; and in its success, by the plan which has been adopted, the Public Schools of Salem cannot fail to be directly benefited. The only method to raise the standard of instruction is to increase the qualifications of teachers; and it is no vain theory, but the suggestion of practical wisdom, that teachers as well as scholars, adults no less than children, may profit by a course of systematic instruction; and that in no way can the principles, processes, and results, of education be so readily understood and tested, as by the use of such means as are in operation at the Normal Schools. In the institution at Lexington, under the supervision of one of the most experienced and successful teachers that could be found in the State, with daily opportunities for consultation, study, and practice, and with all the benefits of a keenly-excited professional sympathy, the progress of the students has already proved what is practicable, and the testimony of every visiter confirms the highest anticipations of its usefulness. It is too late, therefore, to agitate a question that has been settled; and, whatever may be the existing causes of discontent, all who cannot contemplate with pride, should with dignity refrain from aspersing, the highest purposes and purest motives which were ever blended in the public service."

Beauties of Ignorance.—It will be scarcely believed, that the following disgusting act of superstition and cruelty could be practised, in the nineteenth century, and in a city like Norwich; but such is unfortunately the fact. Children who are sickly are taken to a woman living in St. Lawrence, to be cut for a supposed disease, called the "spinnage;" the woman performs her operation on a Monday morning only, and charges three pence. On the first visit, the woman cuts the lobe of the right ear, with a pair of scissors, and with the blood makes the sign of the cross upon the child's forehead. On the second Monday, she does the same with the left ear; and, in some instances, it is deemed necessary to subject the little sufferers to nine operations of this ridiculous ceremony. We hope, after this exposure, that parents will not subject their infants to such barbarous treatment.—*English paper.*

[They will, unless they are better educated.—Ed.]

Dr. Franklin said, "What maintains one vice, would bring up two children."

[For the Common School Journal.]

EDUCATION.

NO. I.

Mr. Mann,—One, whose example we ought all to follow, has taught us to respect the proffered mite of those who have but small resources. If you exhibit the same spirit, in relation to humble efforts to do good, I shall expect to see the enclosed communication in the next Number of your excellent Journal; if not, then, according to Parliamentary usages, you will endorse it,—read once, and indefinitely postponed. Should the former be its fate, you may hear from me, again; if the latter, I have no promises to make. Yours, S. P.

He, who would accomplish difficult enterprises, should not have so much faith in himself, or in the materials upon which he proposes to operate, nor rely so much upon dazzling theories, as to overlook those real impediments, which are likely to be found in his way. The later such difficulties are discovered, the more sure will they be to cause either a partial or a total failure. There are too many, floating upon the surface of the great ocean of human life, pretending to be pilots, who have neither chart or compass, and who are more likely to reach its desolate confines, than the happy haven for which they embarked.

If unenlightened zeal, combined with great efforts and pure designs, may, like the blind Giant of the Israelites, accomplish its object; then the same powers, with good purposes, the same energy, with holy influences, must act more safely and more surely, when the whole field of operations, in all its length and breadth, with all its varieties of surface and of soil, is beneath the clear vision of him who would make it more beautiful or more productive.

The necessity of possessing this clear moral vision, of gaining an intellectual height, sufficiently elevated, to view widely what is before us, around us, and even within us, applies with peculiar force to him, who would mould the human character into its proper shape; who would adorn it with mental and moral beauty; who would bring out the whole man, in such right proportions, as to make him wise, useful, and happy. Before he undertakes to perform such consecrated duties, he should endeavor to become well acquainted with the materials he proposes to influence, and with the efforts best calculated to make the most of such easily-deranged, such easily-diverted, and yet such inestimable, treasures.

He, who would do his whole duty to himself and others; who would have every thing around him, from masses of dead matter to the indestructible soul of man, perfect in their proper spheres, finds, not only that difficulties increase, but that the probabilities of success decrease, as he moves upward, from the lowest grade of inanimate, to the highest exhibitions of moral and spiritual, natures. Mere matter is generally so passive, that our success over it is in exact proportion to our skill and our exertions, and the artisan can give it all but vitality. The vegetable kingdom, if not more rebellious, is less likely to reward our exertions. Influences, over which we have little or no control, must combine with ours, to insure success. Light, air, moisture, heat, may fail to be propitious. If we can warm and make fruitful the frigid zone, we cannot cool or fertilize the vast sandy deserts of the torrid, or much abridge the boundaries of the ocean. Our seedtime may not be neglected, and yet our harvest may be deficient. Though but part of that portion of animated nature, inferior to himself, can be made serviceable or obedient to man; and though that part needs much care and training; it more surely improves under his judicious discipline, than those who are to be the heirs of his name and his fortune.

When man moves upward from the kingdoms of Nature, for the purpose of improving and elevating his own race, he is met with one embarrassing difference. While he continued amongst the mineral, the vegetable, and the irrational, he generally found, that like causes would produce like effects; but the moment he enters the human nursery, he discovers, that however carefully his influences are exerted to make others useful, virtuous, and happy; and whether exerted upon those who are unallied to him by blood, or upon his own offspring; he fails of what he deems deserved success. He finds, under the same watchful eye, within the influences of the same intelligent mind, in fact, surrounded, so far as humanity can discover, with the same moral atmosphere, in every respect, the objects of his solicitude diverging,—innocently, it may be, but widely diverging,—from each other. He finds what may be termed a constitutional difference, controlling, at least in a degree, all subsequent influences. He finds, that God has limited the powers of man over man; that Infinite Wisdom has ordained that variety which goes to make up, if rightly brought out, a perfect social state. He finds, that Heaven has said to parents, neither your partiality, nor the selfishness of governments, nor the powers of superstition, nor the fluctuating and potent energies of fashion, shall be able to press into one mould the soul of man, and to make alike, what human good requires should be widely diversified.

With whatever beauty of language, then, one of the wisest and best of men may have told us, "that the human soul, without education, is like marble in the quarry, which shows none of its inherent beauties till the polisher has brought them out;" or, "that sculpture is to the block of marble, what education is to the human soul;" and however captivating may be a theory growing out of such premises; they are not sufficiently correct, to be made the rule of action with him who would rightly develop all the useful faculties of man. Those, who think the metaphor is not too strong, would own, that man has no such power over the material parts of his brother or his child, as he has over the block of marble; that he could not even make one hair black or white. And he, who sees the different moral and mental exhibitions of the living principle, as developed in children, with or without education, will find, that marble is quite too quiescent to represent what goes to make up the inner man. The artist may make a thousand statues to any given pattern; but, when he operates upon humanity, however much he may desire a different result, there will remain an individuality, which no effort of his can entirely obliterate. Oliver Cromwell could make himself a king, but wholly failed to transfer his royal energies to his son; and Chesterfield, after long and faithful exertions, not only failed to make his son a leader of Parliament, but, so far as can be discovered, a leader even in those vices which degraded his highminded but profligate father. It was not designed by Providence, that any one mind should entirely educate any other, nor that even all the mental or moral influences, with which it may happen to be surrounded, should do it; but that all within us, as well as all without us, should come in for a share, for good or for evil, in the great work. While the truly wise and benevolent will form their models of ideal perfection, and will endeavor to polish, refine, and bring out, the heaven-born image impressed on the soul and the affections of every child; others, of different character, will too often be at hand, and, with ruder instruments, striving for an opportunity to mar its moral beauty, and to substitute, for its purity, their own imperfections; and in this they will, in some degree at least, succeed.

How deeply interesting has Heaven made it, and wisely made it, then, that our moral atmosphere should be cleansed and kept constantly pure, not only around our firesides, but throughout the length and breadth of the land; so that no storms nor currents, growing out of vice and ignorance, may collect in the distance, and spread, till they reach the remote as well as the near, and overwhelm the innocent with the guilty.

In contending for an inherent variety in the human character, let me not be understood, that any are unfitted by Nature to be morally correct,—for this I do not believe; but, that all may become virtuous, useful, and happy; that all may be good, and yet be different; and that, in educating the young, we should always keep in view their different capacities, and the different spheres which Heaven designed them to fill.

[From the Iowa Sun.]

INTERNAL IMPROVEMENT.

The system we plead for, though attended with much toil and expense, will not require a State tax of a single cent, nor much if any legislation. It is preeminently a "democratic" system; it is to be begun by the people, and will be for the exclusive benefit of the people. It is only for every farmer to mend up his fences, till his ground well, have it well prepared for planting, have his crops in, seasonably, tend them well, keep down the weeds, see that his cattle and horses are fed and treated so as to make them thrive, keep his implements in order and in their place; for every father to rule his family well, govern his children, form their minds and manners, by good instruction, train them up in the habits of industry, honesty, and sobriety, provide them with comfortable clothing, send them to school and pay for their tuition, and have a care to the company they keep; for every husband to treat his wife as a bosom companion; for every woman to love her husband, and try to prove a helpmeet for him, to keep from gossipping, to spin more stocking than street yarn, to keep the house tidy, and the family clothing clean and well mended; for every damsel to keep all grease spots from her clothes, darn the heels of her stockings, remove beau-catchers from her head, and novels from her library, to do much with needles, and store her head with useful ideas; for every young man to go decent, but to buy no better clothes than he can honestly pay for, work hard, behave courteously to others, especially to old men, to guard against self-importance and insolence, if much in company with ladies, to black his shoes, trim his hair, throw away his cigar and quid, attend preaching, regularly, and hold his tongue, if he cannot talk sensibly, and to get married when he is twenty-five, if he can find any one to have him; for magistrates to execute the laws; for tavern-keepers to keep better food than brandy; for towns to have clean streets and good sidewalks, to remove every nuisance, and every thing injurious to health; favor good morals; for every district to support good schools. In fine, for it is impossible to enumerate all the objects embraced in our scheme, for every body to cease to do evil, learn to do well, attend church on the Sabbath, mind his own business, and take a newspaper.

IMPORTANCE OF UNDERSTANDING THE MEANING OF WORDS ILLUSTRATED. "In many parts of Scotland, the word *virtue* is limited entirely to *industry;* and a young Divine, who preached upon the moral beauties of virtue, was considerably surprised, at learning that the whole discourse was supposed to be a panegyric upon a particular damsel, who could spin fourteen spindles of yarn in a week."

"A man who, to good nature, adds the general rudiments of good-breeding, *provided he rest contented with a simple and unaffected manner of behaving and expressing himself,* will never be ridiculous, in the best society."—SIR WALTER SCOTT.

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